

Application No. 10/534,583

Reply to Office Action

REMARKS/ARGUMENTS**RECEIVED
CENTRAL FAX CENTER****NOV 02 2006***The Pending Claims*

Claims 18, 20, 27, and 43-62 are pending and directed to a modified sarcosine oxidase (claims 18, 20, 27, and 43-57) and a gene encoding the modified sarcosine oxidase (claims 58-62).

Amendments to the Claims

Claims 1, 3, 5-17, 28, 35, and 42 have been canceled because the subject matter encompasses non-elected subject matter in response to a restriction requirement. Claims 25 and 31 additionally have been canceled. Claim 18 has been amended to clarify the claim language and to recite that the modified sarcosine oxidase is a protein that comprises the amino acid sequence of SEQ ID NO: 1 in which at least valine at position 94 of SEQ ID NO: 1 is substituted with a different amino acid, as supported by original claim 25 (now canceled) and Examples 2B to 7B and Tables 5-7 of the specification. Claim 20 has been amended to recite that the modified sarcosine oxidase has 80% homology (identity) with the amino acid sequence of SEQ ID NO: 1, as supported by the specification at, for example, page 11, lines 1-2. Claims 43-62 are new and are supported the specification at, for example, page 6, lines 35-36, page 11, line 35, through page 13, line 14, Examples 2B to 7B, and Tables 5-7. Accordingly, no new matter has been added by way of these amendments.

Summary of the Office Action

The Office maintains the restriction requirement and withdraws claims 1-17, 19, 21-24, 26, 28-30, and 32-42 from further consideration. The Office rejects claims 18, 20, 25, and 31 under 35 U.S.C. § 112, first paragraph, as allegedly lacking written description. The Office also rejects claims 18, 20, 25, and 31 under 35 U.S.C. § 112, first paragraph, as allegedly lacking enablement. The Office rejects claims 18 and 31 under 35 U.S.C. § 102(b) as allegedly anticipated by Yoshiaki et al. I (JP 10-248572) and Yoshiaki et al. II (FEBS Letters, 438: 263-266 (1998)). Reconsideration of these rejections is hereby requested.

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Discussion of the Section 112 Rejections

Pending claims 18, 20, 27, and 43-54 are directed to a modified sarcosine oxidase which is a protein comprising an amino acid sequence of SEQ ID NO: 1 in which at least the valine at position 94 of SEQ ID NO: 1 is substituted with a different amino acid and wherein the protein has sarcosine oxidase activity and a lowered action on L-proline compared with a sarcosine oxidase of SEQ ID NO: 1. Pending claims 55-57 further define the modified sarcosine oxidase as a protein that consists of the amino acid sequence of SEQ ID NO: 1 with optional substitutions of amino acids at specific positions of SEQ ID NO: 1 with different amino acids. Pending claims 58-62 are directed to a gene encoding the modified sarcosine oxidase.

The specification discloses numerous examples of such a modified sarcosine oxidase in Examples 2B through 6B and Tables 5-7. The specification teaches how to produce the modified sarcosine oxidase at, for example, page 14, line 21, through page 17, line 4. Additionally, the specification describes methods to measure sarcosine oxidase activity of the enzyme, as well as its action on L-proline, at for example, page 18, lines 7-31.

In view of the teachings in the specification, one of ordinary skill in the art would understand that Applicants had possession of the modified sarcosine oxidases encompassed by the pending claims and that Applicants had enabled one of ordinary skill in the art to make the modified sarcosine oxidases of the invention. Since the modified sarcosine oxidases of the invention are fully described and enabled by the specification, Applicants request the withdrawal of the written description and enablement rejections.

Discussion of the Anticipation Rejections

The Office rejects claims 18 and 31 as allegedly anticipated by Yoshiaki I and Yoshiaki II. These rejections are traversed for the following reasons.

The pending claims, as amended, require that the modified sarcosine oxidase has a substitution at position 94 of the amino acid sequence of SEQ ID NO: 1. Neither Yoshiaki reference teaches or suggests a modified sarcosine oxidase with a substitution at position 94 of the amino acid sequence of SEQ ID NO: 1. Therefore, the Yoshiaki references cannot be considered to anticipate the subject matter of the pending claims.

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For the above reasons, Applicants request the withdrawal of the anticipation rejections.

Conclusion

Applicants respectfully submit that the patent application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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Date: November 2, 2006